

Notice of Allowability

Application No.

09/882,733

Examiner

James A. Reagan

Applicant(s)

SANKARAN ET AL.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the INTERVIEW held on 14 August 2006.
2. ☒ The allowed claim(s) is/are 1-9,12-17 and 19-35.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Status of Claims

1. This action is in reply to the INTERVIEW held on 14 August 2006.
2. Claims 1, 11, 19, and 29 have been amended by Examiner's amendment below.
3. Claims 10, 18, 28, and 36 have been canceled by Examiner's amendment below.
4. Claims 1-9, 12-17, 19-27, and 19-35 are currently pending and have been examined.

EXAMINER'S AMENDMENT

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
6. Authorization for this examiner's amendment was given in a telephone interview with Jen Bush on 14 August 2006.

The application has been amended as follows:

1. (Currently Amended) In a multithreaded analytic application executed by a source computer system and capable of concurrent execution of multiple session threads, a method for transferring data, the method comprising:
receiving an incoming request for analytic data resident in a mass storage unit on the source computer system;
authenticating the incoming request;

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spawning a session thread that reads and parses a command received via the incoming request,
the command for sending the data to a second computer system; and
concurrently executing a plurality of data transformation threads within the session thread,
comprising
a reader thread that reads data and writes at least a part of the data to a first data block buffer;
a compressor thread that compresses the part of the data in the first data block buffer into a
compressed data block and writes the compressed data block to a second data block
buffer;
an encryptor thread that encrypts the compressed data block in the second data block buffer into
an encrypted and compressed data block and writes the encrypted and compressed data
block to a third data block buffer; and
a writer thread that reads the encrypted and compressed data block in the third data block buffer
and sends the encrypted and compressed data block to the second computer[.];
restoring a connection with the second computer system when an ongoing connection is lost; and
resuming transfer of data to the second computer system at the point in the data where the
ongoing connection was lost.

2. The method of Claim 1 further comprising:
verifying that data transfer to the second computer system is complete.
3. The method of Claim 1 further comprising:
verifying that data transfer to the second computer system is without error.
4. The method of Claim 1 wherein the source computer system and the second computer
system are networked via the Internet.

5. The method of Claim 1 wherein the data comprises data processed by an analytic application.
6. The method of Claim 1 wherein the incoming request uses Extensible Markup Language (XML).
7. The method of Claim 1 wherein spawning a session thread further comprises:
translating the command into a plurality of tasks;
storing the tasks in a task table in a given order; and
executing the tasks in order until a task ending the session thread is found.
8. The method of Claim 1 wherein the first data block buffer and the second data block buffer are substantially equal in size and wherein enough compressed data blocks are accumulated to fill the second data block buffer before the compressor thread writes to a second data block buffer.
9. The method of Claim 1 wherein the second data block buffer and the third data block buffer are substantially equal in size and wherein enough encrypted and compressed data blocks are accumulated to fill the third data block buffer before the encryptor thread writes to the third data block buffer.
10. (Canceled)
11. (Currently Amended) In a first multithreaded analytic application executed by a target computer system and capable of concurrent execution of multiple session threads, a method for receiving data transferred from a source computer, the method comprising:

issuing a request for data to the source computer system on which the data resides, the source computer system executing a second multithreaded analytic_application;
spawning a session thread in response to a message from the source computer system;
receiving from the source computer system at least one encrypted and compressed data block of the data; and
concurrently executing a plurality of data transformation threads within the session thread, comprising
a reader thread for writing the encrypted and compressed data block to a first data block buffer;
a decryptor thread for decrypting the encrypted and compressed data block into a compressed data block and writing the compressed data block to a second data block buffer; and
a decompressor thread for decompressing the compressed data block in the second data block buffer and writing a resultant data block to a third data block buffer[.];
restoring a connection with the source computer system when an ongoing connection is lost; and
resuming transfer of data from the source computer system at the point in the data where the ongoing connection was lost.

12. The method of Claim 11 further comprising:

verifying that data transfer from the source computer system was complete.

13. The method of Claim 11 further comprising:

verifying that data transfer from the source computer system was without error.

14. The method of Claim 11 wherein the target computer system and the source computer system are networked via the Internet.

15. The method of Claim 11 wherein the data comprises data processed by an analytic application.

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16. The method of Claim 11 wherein a plurality of encrypted and compressed data blocks accumulate before the decryptor thread executes.
17. The method of Claim 11 wherein a plurality of compressed data blocks accumulate before the decompressor thread executes.
18. (Canceled)
19. (Currently Amended) A source computer system comprising:
 - a bus;
 - a memory unit coupled to the bus; a multithreaded analytic application stored in the memory unit, and comprising:
 - a listener object for receiving an incoming request for data resident in a mass storage unit on the source computer system;
 - protocol for authenticating the incoming request;
 - a session manager object for spawning a session thread that reads and parses a command received via the incoming request, the command for sending the data to a second computer system;
 - a reader channel object for reading data and writing at least a part of the data to a first data block buffer;
 - a compressor channel object for compressing the part of the data in the first data block buffer into a compressed data block and writing the compressed data block to a second data block buffer;
 - an encryptor channel object for encrypting the compressed data block in the second data block buffer into an encrypted and compressed data block and writing the encrypted and compressed data block to a third data block buffer; and

a writer channel object for reading the encrypted and compressed data block in the third data block buffer and sending the encrypted and compressed data block to the second computer, wherein the application executes the reader channel object, the compressor channel object, the encryptor channel object, and the writer channel object concurrently; and

a processor coupled to the bus, the processor configured for executing the multithreaded analytic application[[.]] wherein the processor is further configured for:
restoring a connection with the second computer system when an ongoing connection is lost; and
resuming transfer of data to the second computer system at the point in the data where the ongoing connection was lost.

20. The source computer system of Claim 19 wherein the processor is further configured for verifying that data transfer to the second computer system is complete.
21. The source computer system of Claim 19 wherein the processor is further configured for verifying that data transfer to the second computer system is without error.
22. The source computer system of Claim 19 wherein the source computer system and the second computer system are networked via the Internet.
23. The source computer system of Claim 19 wherein the data comprises data processed by an analytic application.
24. The source computer system of Claim 19 wherein the incoming request uses Extensible Markup Language (XML).

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25. The source computer system of Claim 19 wherein the session manager object is further configured for:

translating the command into a plurality of tasks;

storing the tasks in a task table in a given order; and

executing the tasks in order until a task ending the session thread is found.

26. The source computer system of Claim 19 wherein the first data block buffer and the second data block buffer are substantially equal in size and wherein the compressor channel object is further configured for:

accumulating compressed data blocks before data are written to the second data block buffer, wherein enough compressed data blocks are accumulated to fill the second data block buffer.

27. The source computer system of Claim 19 wherein the second data block buffer and the third data block buffer are substantially equal in size and wherein the encryptor channel object is further configured for:

accumulating encrypted and compressed data blocks before data are written to the third data block buffer, wherein enough encrypted and compressed data blocks are accumulated to fill the third data block buffer.

28. (Canceled)

29. (Currently Amended) A target computer system comprising:

a bus;

a memory unit coupled to the bus;

a multithreaded analytic application stored in the memory unit, and comprising:

a first session thread for issuing a request for data to a source computer system on which the data resides;

a session manager object for spawning a session thread in response to a message from the source computer system;

a listener object for receiving from the source computer system at least one encrypted and compressed data;

a reader channel object for reading data and writing at least part of the encrypted and compressed data to a first data block buffer;

a decryptor channel object for decrypting the encrypted and compressed data block into a compressed data block and writing the compressed data block to a second data block buffer; and

a decompressor channel object for decompressing the compressed data block in said the second data block buffer and writing a resultant data block to a third data block buffer, wherein the application executes the reader channel object, the decryptor channel object, and the decompressor channel object concurrently; and

a processor coupled to the bus, the processor configured for executing the multithreaded analytic application[.], wherein the processor is further configured for:

restoring a connection with the source computer system when an ongoing connection is lost; and

resuming transfer of data from the source computer system at the point in the data where the ongoing connection was lost.

30. The target computer system of Claim 29 wherein the processor is further configured for verifying that data transfer from the source computer system was complete.
31. The target computer system of Claim 29 wherein the processor is further configured for verifying that data transfer from the source computer system was without error.

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32. The target computer system of Claim 29 wherein the target computer system and the source computer system are networked via the Internet.
33. The target computer system of Claim 29 wherein the data comprises data processed by an analytic application.
34. The target computer system of Claim 29 wherein the decryptor channel object is further configured for accumulating encrypted and compressed data blocks before decrypting the encrypted and compressed data blocks.
35. The target computer system of Claim 29 wherein the decompressor channel object is further configured for accumulating compressed data blocks before decompressing the compressed data blocks.
36. (Canceled)

Reasons For Allowance

7. The following is an Examiner's statement of reasons for allowance:

None of the art of record, taken individually or combination, disclose at least the method step or system components of:

- o *a multithreaded analytic application stored in the memory unit, and comprising;*
- o *a first session thread for issuing a request for data to a source computer system on which the data resides;*
- o *a session manager object for spawning a session thread in response to a message from the source computer system;*

- *a listener object for receiving from the source computer system at least one encrypted and compressed data;*
- *a reader channel object for reading data and writing at least part of the encrypted and compressed data to a first data block buffer;*
- *a decryptor channel object for decrypting the encrypted and compressed data block into a compressed data block and writing the compressed data block to a second data block buffer; and*
- *a decompressor channel object for decompressing the compressed data block in said the second data block buffer and writing a resultant data block to a third data block buffer, wherein the application executes the reader channel object, the decryptor channel object, and the decompressor channel object concurrently; and*
- *a processor coupled to the bus, the processor configured for executing the multithreaded analytic application,*
- *wherein the processor is further configured for:*
- *restoring a connection with the source computer system when an ongoing connection is lost; and*
- *resuming transfer of data from the source computer system at the point in the data where the ongoing connection was lost.*

Independent Claims 1, 11, 19, and 29 are distinguished over the closest prior art of Morley et al., (US Patent Application Publication No. 2002/10056081 A1), which teaches multi-threaded applications. As recited in independent claims 1, 11, 19, and 29, it is clear that the Applicant's invention is distinguished over the Morley invention in at least the method step and/or system component of *restoring a connection with the source computer system when an ongoing connection is lost and resuming transfer of data from the source computer system at the point in the data where the ongoing connection was lost.*

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Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to **James A. Reagan** whose telephone number is **571.272.6710**. The Examiner can normally be reached on Monday-Friday, 9:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, **ANDREW J. FISCHER** can be reached at **571.272.6779**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair> . Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866.217.9197** (toll-free).

Any response to this action should be mailed to:

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Washington, D.C. 20231

or faxed to **571-273-8300**.

Hand delivered responses should be brought to the **United States Patent and Trademark Office Customer Service Window:**

Randolph Building
401 Dulany Street
Alexandria, VA 22314.

JAMES A. REAGAN

Primary Examiner

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18 September 2006

JAMES A. REAGAN
PRIMARY EXAMINER
